What is claimed is:

1. A recombinant peptide vector comprising a leader peptide, linker DNAs and a DNA construct formed by operably linking expression control sequences with a therapeutic gene encoding a fusion protein where the extracellular domain of CTLA4 is bound to the Fc fragment of immunoglobulin, wherein the leader peptide is linked to both ends of the DNA construct by the linker DNAs.

2. The recombinant peptide vector of Claim 1, wherein the leader peptide consists of 16 amino acids.

3. The recombinant peptide vector of Claim 2, wherein the 1^{st} to 4^{th} amino acids are amino acids with non-polar aliphatic side chains.

4. The recombinant peptide vector of Claim 3, wherein the amino acids with non-polar aliphatic side chains are selected from the group consisting of Gly, Ala, Val, Leu and Ile.

5. The recombinant peptide vector of Claim 2, wherein the 5^{th} and 6^{th} amino acids are amino acids with nonionic polar side chains.

6. The recombinant peptide vector of Claim 5, wherein the amino acids with nonionic polar side chains are selected from the group consisting of Asn, Gln, Ser and Thr.

7. The recombinant peptide vector of Claim 2, wherein the 7th amino acid is Gly.

9. The recombinant peptide vector of Claim 2, wherein the 8th to 12th amino acids are amino acids with basic side chains.

10. The recombinant peptide vector of Claim 9, wherein the amino acids with basic side chains are Lys or Arg.

11. The recombinant peptide vector of Claim 2, wherein the 13th amino acid is Gly.

12. The recombinant peptide vector of Claim 1, wherein the leader peptide has an amino acid sequence of SEQ ID NO: 21.

13. The recombinant peptide vector of Claim 1, wherein the linker DNAs have a base sequence formed by annealing a base sequence of SEQ ID NO: 22 with a base sequence of SEQ ID NO: 23.

14. The recombinant peptide vector of Claim 1, wherein the DNA construct and one of the linker DNAs are linked together by a phosphodiester bond between the 5'-terminal phosphate group of the one linker DNA and the 3'-terminal hydroxyl group of the therapeutic gene, the leader peptide and the other linker DNA are linked together by a disulfide bond between the C-terminal Cys of the leader peptide and the 5'-terminal Cys of the other linker DNA, and the two linker DNAs are annealed

together, thereby linking both ends of the DNA construct to the leader peptide by the linker DNAs.

15. The recombinant peptide vector of Claim 1, wherein the CTLA4 and the immunoglobulin are derived from mammals.

16. The recombinant peptide vector of Claim 15, wherein the mammals are human beings or dogs.

17. The recombinant peptide vector of Claim 1, wherein the expression control sequences include a promoter, a signal peptide sequence and a polyadenylation sequence.

18. The recombinant peptide vector of Claim 17, wherein the promoter is a promoter derived from cytomegalovirus.

19. The recombinant peptide vector of Claim 17, wherein the signal peptide sequence is a secretory sequence derived from human oncostatin M.

20. The recombinant peptide vector of Claim 17, wherein the polyadenylation sequence is derived from bovine growth hormones (BGH).

21. The recombinant peptide vector of Claim 1, wherein the DNA construct is a base sequence shown in SEQ ID NO: 12 or SEQ ID NO: 20.

22. The recombinant peptide vector of Claim 1, wherein the immunoglobulin is IgA or IgG.

23. A method for preparing a recombinant peptide vector, which comprises the steps of:

(1) linking a gene encoding the extracellular domain of CTLA4 with a gene encoding the Fc fragment of immunoglobulin so as to prepare a therapeutic gene;

(2) operably linking the therapeutic gene with expression control sequences so as to prepare a DNA construct;

(3) synthesizing a leader peptide and linker DNAs and then linking the leader peptide and the linker DNAs together, so as to prepare a peptide vector; and

(4) linking the both ends of the DNA construct obtained in the step (2) to the leader peptide by the linker DNAs.

24. The method of Claim 23, wherein the DNA construct and one of the linker DNAs are linked together by a phosphodiester bond between the 5'-terminal phosphate group of the one linker DNA and the 3'-terminal hydroxyl group of the DNA construct, the leader peptide and the other linker DNA are linked together by a disulfide bond between the C-terminal Cys of the leader peptide and the 5'-terminal Cys of the other linker DNA, and the two linker DNAs are annealed together, thereby linking both ends of the therapeutic gene to the leader peptide by the linker DNAs.

25. A composition for the treatment of autoimmune diseases, which comprises a pharmaceutically effective amount of a recombinant peptide vector as claimed in any one of Claims 1 to 22, and a pharmaceutically acceptable carrier.

26. The composition of Claim 25, wherein the autoimmune diseases are systemic lupus erythematosus.